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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/825,820	04/04/2001	Eric J. Horvitz	MS150904.1	2915

27195 7590 04/05/2006

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ART UNIT	PAPER NUMBER
2623	

DATE MAILED: 04/05/2006

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BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Application Number: 09/825,820
Filing Date: April 04, 2001
Appellant(s): HORVITZ ET AL.

Horvitz et al.
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 12/29/2005 appealing from the Office action mailed 10/18/2005.

(1) Real Party in interest

A statement identifying the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings, which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

The following is a listing of the evidence (e.g., patents, publications, Official Notice, and admitted prior art) relied upon in the rejection of claims under appeal.

Maissel et al. (U.S. 6,637,029)

Ferman et al. (U.S. 2002/0059584)

Hopple et al. (U.S. 6,519,769)

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1, 2, 4, 9-18, and 32-34 are rejected under 35 U.S.C. 102(e) as being anticipated by Maissel (US 6,637,029).

Considering claim 1, Maissel discloses a system for ranking items in a selectable information list (column 20, lines 47-56) received from an information delivery system (column 7, lines 55-61 and column 10, lines 59-62), comprising; a database system (140 in figure 1, column 12, lines 23-26, and column 18, lines 4-21) that logs (records) selections of information viewed by a user of the information delivery system (column 14, line 67 - column 15, line 4) and logs temporal history related to a plurality of time subintervals that correspond to the viewing of the selected information (column 12, lines 26-28 and 40-45); and a collaborative filtering system (130—figure 1) that employs the logged temporal history and disparate logged temporal history from a plurality of disparate database systems to generate a recommendation specific to the user based at least in part on information obtained from a plurality of users (column 19, lines 27-46) related to a particular one of the plurality of time subintervals (column 12, lines 23-34).

As for claim 2, Maissel discloses that a selection is logged if the selection is viewed for a dwell time that exceeds a predetermined threshold (column 4, lines 29-37).

Regarding claim 4, Maissel discloses that a selection is logged if the selection is briefly viewed and jumped away to another selection (column 4, lines 38-43).

Regarding claim 9, Maissel discloses that the collaborative filtering system provides in real-time a selectable recommendation list ordered by estimated degree of preference that a user has for each item (column 19, lines 27-46). Maissel discloses that real time information may be transmitted and displayed on a user's display apparatus (column 19, lines 27-30) as a recommendation bar graph that shows estimated degree of preference indicating the proportion of audience watching the same or another program (column 19, lines 39-43).

Considering claim 10, Maissel discloses that the collaborative filtering system receives attributes of at least one user of the system and utilizes these attributes in providing the selectable recommendation list (column 15, line 63 – column 16, line 4).

As for claim 11, Maissel discloses that the collaborative filtering system receives attributes of other systems (column 11, lines 56-64) and utilizes these attributes in providing a globally ranked recommendation list (**satellite** communication between a headend and a STB at a user anywhere: global—column 18, lines 51-54 and column 15, line 63 – column 16, line 4) to a cluster of systems based on the temporal viewing history of the systems of the cluster (column 12, lines 31-45).

With regards to claim 12, Maissel discloses that the collaborative filtering system—130 receives a previously viewed item list that has been filtered by a filtering system—120 (column 11, lines 51-59) and generates a new recommendation according

to the preferences provided by the filtered previously viewed item list (the collaborative filtering system produces a customized program schedule information based on the viewer preference profile, which is determined based on previously viewed programs—column 6, lines 60-67 and column 8, lines 55-57).

Regarding claim 13, Maissel discloses the filtering system comprising a time period filter (column 14, lines 20-23 and 30-33) and a popularity filter (column 14, lines 38-46).

Considering claim 14, Maissel discloses a user interface (column 12, lines 46-50) that allows a user to provide at least one filter to a reviewed items list.

As for claim 15, Maissel discloses that the user interface allows a user to request a time period for reviewing information from the selectable recommendation list wherein the collaborative filtering system supplies the selections for the time period requested based on the temporal history of selections within a similar time interval covering the time period. Maissel discloses that the user is enabled to add, delete, or modify any information in the viewer's viewer preference profile (which comprises information on the amount of time or proportion of duration of the program: time period—column 12, lines 31-34) and perform any other appropriate action using the user interface (column 12, lines 48-52 and column 13, line 8).

With regards to claim 16, Maissel discloses that the user interface receives a reviewed items list, allows a user to modify the reviewed items list (column 12, lines 48-57), and inputs the modified reviewed items list as updated preferences into the collaborative filtering system (column 13, lines 5-7), such that a new recommendation list can be generated based on the updated preferences.

Regarding claim 17, Maissel discloses that the information is multimedia (column 21, lines 37-41).

Considering claim 18, Maissel discloses a multimedia system (column 21, lines 37-41) for ranking programs in an EPG list received from a program delivery system (column 7, lines 55-61), comprising; a database system (140—figure 1, column 12, lines 23-26, and column 18, lines 4-21) that logs (records) selections of programs viewed by a user utilizing a program delivery system (column 14, lines 54-62) and logs temporal history that includes a plurality of time subintervals that correspond to the viewing of the selected programs (column 12, lines 26-28 and 40-45); and a collaborative filtering system (130—figure 1) that employs the logged temporal history from the database system and different logged temporal history from a plurality of database systems associated with disparate users to produce a user specific recommendation based at least in part on information associated with a plurality of users (column 19, lines 27-46) related to a particular one of the plurality of time subintervals (column 12, lines 23-34).

As for claim 32, Maissel discloses the multimedia system residing on a remote server (headend) coupled to at least one set top box (110 in figure 1 and column 10, lines 23-26) wherein recommendations are generated by the server and transmitted to the set top box (column 3, lines 36-53 and column 7, line 62 - column 8, line 7).

With regards to claim 33, Maissel discloses the set top box (STB) having an electronic program guide system (column 10, lines 14-24) that receives and displays (column 10, lines 31-37) the recommendations to a user (360—figure 8A receives one or more viewer preference profiles and creates a customized program information (recommendation list) that will be delivered to the STB and displayed thru an EPG—column 18, lines 58-67).

Regarding claim 34, Maissel discloses the remote server (headend 340 in figure 8A) further comprising a global inference system (**satellite** communication between headend 340 and STB 110 at a user anywhere: global—column 18, lines 51-54 and 360—figure 8A) that groups multimedia systems into clusters and a set of general recommendations for members (column 18, lines 60-64) of at least one cluster based on the temporal viewing habits of members of the clusters column 19, lines 6-15).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 3 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Maissel (US 6,637,029) and Ferman (US 2002/0059584).

With regards to claim 3, Maissel discloses a collaborative filtering system (130—figure 1) that employs a logged temporal history corresponding to the viewing of the selected information from a plurality of systems (viewing information from plural viewers—column 11, lines 48-64). Maissel fails to disclose that the collaborative filtering system assigns a positive vote to logged selections that are viewed for a dwell time that exceeds a predetermined threshold.

In analogous art, Ferman discloses that a collaborative filtering system assigns a positive vote to logged selections that are viewed for a dwell time that exceeds a predetermined threshold (paragraph 0285, lines 1-8 and paragraph 0307, lines 1-6).

It would have been obvious to one of ordinary skill in the art to modify Maissel's system to include a positive vote being assigned to the logged selections that are viewed for a dwell time that exceeds a predetermined threshold, as taught by Ferman, for the benefit of increasing the likelihood of positive preferences of a particular user being selected by the system (paragraph 0285, lines 4-8).

Considering claim 5, Maissel discloses a collaborative filtering system that employs a logged temporal history corresponding to the viewing of the selected information from a plurality of systems (viewing information from plural viewers—column 11, lines 48-64). Maissel fails to disclose that the collaborative filtering system assigns a negative vote to logged selections that are viewed briefly and jumped away to another selection.

In an analogous art, Ferman discloses that the collaborative filtering system assigns a negative vote (paragraph 0307, lines 1-6) to logged selections that are viewed briefly and jumped away to another selection.

It would have been obvious to one of ordinary skill in the art to modify Maissel's system to include a negative vote being assigned to the logged selections that are viewed briefly and jumped away to another selection, as taught by Ferman, for the benefit of lowering the likelihood of negative preferences of a particular user being selected by the system (paragraph 0285, lines 4-6).

5. Claims 6 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Maissel (US 6,637,029) and Hopple (US 6,519,769).

As for claim 6, Maissel discloses that the viewed information is time stamped (column 17, lines 42-44) by event type and the collaborative filtering system is based on a single collaborative filtering model. Maissel fails to disclose that the collaborative filtering model is adapted to be trained according to time intervals that the information has been viewed.

In analogous art, Hopple discloses a collaborative filtering model that is adapted to be trained according to time intervals that information has been viewed (column 5, lines 2-9 and 33-41).

It would have been obvious to one of ordinary skill in the art to modify Maissel's system to include a collaborative filtering system that is adapted to be trained, as taught by Hopple, for the benefit of accurately generating a preferred channel match condition (column 5, lines 40-41).

With regards to claim 7, Maissel discloses that the collaborative filtering system—130 is based on a plurality of separate collaborative filtering **models** (parental control information, subscription information, rating information, and language choice

information—column 14, lines 20-53). As for the training feature, it is met by Hopple as described in the rejection of claim 6 above.

(10) Response to Argument

(1-a) In response to appellants' argument (page 4, 4th paragraph) that Maissel does not anticipate or suggest that a collaborative filtering system makes a recommendation specific to the user based at least in part on information obtained from a plurality of users, appellants should note that although the real-time information is transmitted to subscribers, the "alert" cited in column 19, line 31 of Maissel, which makes a recommendation to a user, is an alert based on viewer behavior (fig. 8A and column 19, lines 31-38). More importantly, appellants should note that any two viewing behaviors **are not** necessarily the same. Intelligent agent 130 in figure 1 monitors viewing behavior of one viewer or a plurality of viewers and creates a preference profile based on the monitored viewing behavior (column 3, lines 3-5). The Intelligent agent then employs the preference profile to customize the electronic program guide based on the preference profile. Accordingly, the on-screen alert that makes a recommendation to the user comprises the customized program schedule information (column 5, lines 51-55). Therefore, since every alert that makes a recommendation to the user is based on a monitored viewer behavior of a particular user (column 19, lines 27-38, 105 in figure 1), the generated recommendation ***is specific to the user.*** Furthermore, the recommendation is based at least in part on information obtained from a plurality of

users (large proportion of the audience—column 19, lines 27-38) because it is a computation of the percentage of the audience viewing all programs at a particular time (column 19, lines 21-27).

(1-b) In response to appellants' argument (page 5, 1st paragraph) that Maissel does not anticipate or suggest the displayed proportions, graphs, and alerts related to percentages of users watching particular programs are ***similar for all users***, appellants should note that ***similar*** is sufficient enough to read on specific to a user because the alerts are not the same for each user.

In response to appellants' argument (page 5, 1st paragraph) that Maissel does not anticipate or suggest that the information associated with these distinct types of alerts are combined, the Examiner cites column 21, line 65 – column 22, line 1, where Maissel explicitly discloses that various features of the invention may also be ***provided in combination*** in a single embodiment.

In response to appellants' argument (page 5, 3rd paragraph) that Maissel does not anticipate or suggest employing the logged temporal history and disparate logged temporal history from a plurality of disparate collaborative filtering systems to make a recommendation specific to the user, the Examiner cites column 12, lines 23-43, where the viewer preference profile comprises program characteristics of preferred programs viewed by a viewer at various times (logged temporal history). Maissel further discloses

that customization based on viewer preference profile may occur, wherein that real-time information on a percentage of the audience: the sum of viewers viewing all programs at a particular time (disparate logged temporal history) may be computed to make a recommendation to the user by means of an on-screen alert informing the user that a program on another channel is currently being viewed by a large percentage of the audience (column 19, lines 6-38).

In response to appellants' argument (page 6, 1st paragraph) that the real-time audience viewing information is not a logged temporal history, the Examiner cites column 19, lines 21-23, where Maissel explicitly discloses that the real-time information is the result of computing the percentage of the audience viewing a particular program at the present time (i.e., disparate logged temporal history).

In response to appellants' argument (page 6, 2nd paragraph) that Maissel does not anticipate or suggest a database system that logs temporal history related to a plurality of time subintervals that correspond to the viewing of the selected information, the Examiner cites (140 in figure 1, column 12, lines 23-26, and column 18, lines 4-21), where a database system is disclosed that logs selections of information viewed by a user of the information delivery system (column 14, line 67 - column 15, line 4) and logs temporal history (obtained over a period of time) related to a plurality of time subintervals (at various times) that correspond to the viewing of the selected information (column 12, lines 26-28 and 40-45).

In response to appellants' argument (page 7, 1st paragraph) that Maissel relates to obtaining information over an interval of time and discarding information from other intervals, appellants should note that the elimination of old information is an **alternative** and NOT a proceeding step. Maissel explicitly discloses logging temporal history related to a plurality of time subintervals and then simply discusses eliminating old information as an **alternative.**

In response to appellants' argument (page 7, 2nd paragraph) that Maissel does not anticipate or suggest that the user specific recommendation is generated based on information ... related to a particular one of the plurality of time subintervals, the Examiner cites column 19, lines 21-46, where Maissel explicitly discloses that the user specific recommendation (on-screen alert to a user) is generated based on information (computed real-time information)... related to a particular one (at the present time) of the plurality of time subintervals (at various times over a period of time—column 12, lines 23-34).

In response to appellants' argument (page 8, 1st paragraph) that Ferman does not make up for the aforementioned deficiencies of Maissel, the Examiner cites (paragraph 0285, lines 1-8 and paragraph 0307, lines 1-6), where Ferman discloses that a collaborative filtering system assigns a positive vote to logged selections that are viewed for a dwell time that exceeds a predetermined threshold. Ferman further discloses that the collaborative filtering system assigns a negative vote (paragraph

0307, lines 1-6) to logged selections that are viewed briefly and jumped away to another selection.

In response to appellants' argument (page 8, 2nd paragraph) that Hopple does not make up for the aforementioned deficiencies of Maissel, the Examiner cites (column 5, lines 2-9 and 33-41), where Hopple discloses a collaborative filtering model that is adapted to be trained according to time intervals that information has been viewed.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

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March 10, 2006

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